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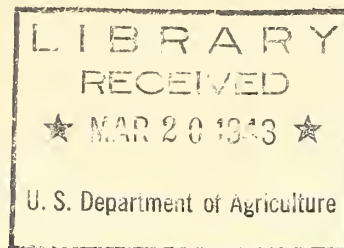
Let's talk about MILK production for a world at war

A discussion guide for dairy farmers

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The victory milk goal for 1943 has been set: 122 billion pounds for the Nation—in spite of labor, equipment, and other problems, an increase of nearly 2 percent over 1942's record-breaking production. Now we know how much to aim at—in the Nation, in the home State, in the home county.

We know how great the need is—for ourselves and for our allies, for our armed forces, and for relief needs in occupied countries. We know how much we can take care of in the home district—in creamery and cheese factory, in condensery and drying plant, in storing and shipping. And we know how much milk formerly fed to livestock can be diverted to human consumption. All these things went into figuring the goal.

If we can surpass that goal, so much the better. Actually we need 140 billion pounds. But in view of production problems, we face a huge task in delivering the 122 billion pounds.

What does this all mean for you and your plans? Does Uncle Sam need more milk from your farm? Then how to produce it? How to keep production up through the year and avoid the late-season slump? How much heavier feeding will "pay out" in the year ahead? What does good management in 1943 call for?

These questions are matter for close study and free discussion at community round tables and meetings of farm organizations. Here are a few questions to guide your discussion, a few facts that have a bearing, and a few suggestions tested in practice.

What are we up against?

How much is needed and by whom?

One hundred and forty billion pounds of milk isn't just theory—not just a figure at the bottom of a column of figures. It's

FOR MOST HEADWAY IN DISCUSSION

As sponsor of the meeting—

Send this Guide to group members beforehand.

Appoint a farmer leader for discussion well in advance. Invite specialists to join in as group members.

Make everyone comfortable. Chairs in a circle for informality. Introduce everybody.

As member of the group—

Enter into the discussion freely. Tell what you know and think. Speak briefly and to the point.

Be a good listener. Give others a chance. Everyone stay seated. Keep it one discussion.

As leader of discussion—

Study the Guide in advance. Ask others to study special parts, be ready with the facts.

Prepare your own discussion plan: questions that matter most locally. Under each major problem let group lay its own track mostly.

On every question, get local experience and judgment into the open first. Draw on material in the Guide whenever it is helpful.

Put questions to all or part of group as a rule, not to individuals. Keep your own view out of it mainly. Aim at 100-percent participation.

Sum up discussion now and then. Keep it on the track. You want it to get somewhere. If you need another session to finish the job, plan one.

the vital need of 127 million civilians—men and women and children in this country. It's the need of our millions in Army and Navy and Marines, at home and abroad. It's the need of millions in Great Britain, Russia, China, and other friendly nations. It's the need of citizens in our American territories. It's the need of millions in countries occupied by our armed forces. In the words of Secretary Wickard, "It is a political necessity that starvation disappear in any nation we reoccupy." Total all those needs and you get 118 billion pounds needed for civilians here at home, 22 billion pounds for the armed forces, for lend-lease and other needs.

Of the 122 billion pounds set as our production goal, 100 billion pounds is marked for civilian use, 22 billion for non-civilian. Can we afford to leave those needs unfilled?

How shall the job be measured out? Our State goal for 1943 is pounds. That means a percent increase over 1942. Our county goal for 1943 is pounds, percent more than 1942. What goal should you set for your own farm—in terms of pounds or of percentage increase over 1942?

Will more cows do the trick?

Does a man do his part just by buying more cows? Or by keeping back heifers he would ordinarily sell for veal? Or by doing both? Can you reach your county goal that way? National goal? How about feeding heifers for faster growth, so they will be ready to calve earlier?

Do these angles get into the discussion? Farmers can't add to the national total by buying more cows. For every "buy" there has to be a "sell." And dairy specialists say that in an ordinary year we can't hope to increase our national dairy herd by more than 3 percent—by keeping back heifers and older cows that are ordinarily culled out. But in 1943 we're likely to fall far short of such an increase because of the draft on farm manpower and other wartime problems. Every farmer who can handle a larger herd should undertake it, but indications are that we can't reach our goal on that basis alone.

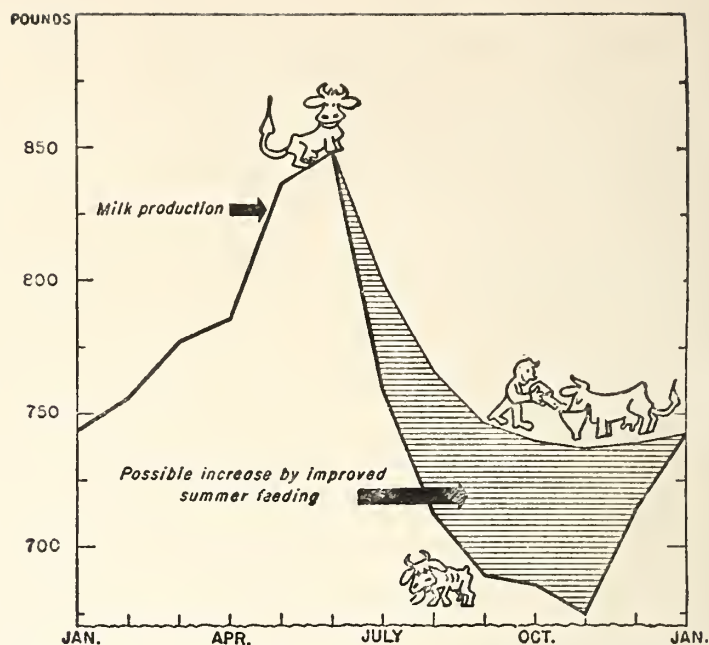
How does your herd compare in size this year with last year? How are chances for increasing in 1943? In 1944? How about the county in general? Are there more or fewer cows than last year? If you lose a man, could you carry on without reducing the herd? Are heifers being sold for slaughter that might become producers if they were to reach the right hands? Do you have any clearing house for information on heifers that are available, and on interested buyers? Should there be a Government program to reduce the slaughter of heifers and milk cows?

Then how can we reach our goal?

If "more cows" falls short of the goal this year, how can we get the rest of the way? Can you step up the output per cow by better feeding? By better management?

How about that summer-fall slump in production? Can you prevent that? Can we blame it all on hot weather?

Here's a picture of the typical slump. The shaded part of the graph shows how much of the slump could be won back by heavier feeding and change of management, according to recent studies of dairy specialists.



You can't do anything about weather, but hot weather does its damage partly by drying up pastures. That means less feed, and you can do something about that.

How can we get more milk per cow at a profit?

How about feeding more grain and concentrates?

What difference do you find that heavier grain feeding makes? How much more grain should be fed to step up production 5 percent? 10 percent? Will this depend on how much roughage the cows are eating? Do you have enough roughage so they can eat all they want? Do you let them have it?

Here's how increased grain feeding works: Generally speaking, cows fed 1 pound of grain to 3 pounds of milk, with unlimited quantities of good roughage, will produce 15 percent more than when fed 1 pound of grain to 6 pounds of milk; fed 1 to 2, they will produce 24 percent more than when fed 1 to 6. Likewise, cows fed 1 to 2½, with limited quantities of good roughage (20 pounds of hay a day for a 1,000 pound cow), will produce 14 percent more than when fed 1 to 3; fed 1 to 2, they will produce 27 percent more than when fed 1 to 3.

Do you follow any general rule in deciding on quantities? How do the group's suggestions compare with these?

1. One rule of thumb that works out well if you are feeding all the good roughage your cows will eat is: For Guernsey and Jersey cows, 1 pound of grain for every 3 pounds of milk produced; for lower testing breeds (Ayrshire, Brown Swiss, Holstein, mixed breed, and dual-purpose), 1 pound of grain for every 4 pounds of milk produced (1 quart of dairy ration weighs 1 to 1½ pounds; 1 quart of milk about 2 pounds).

2. Another rule found to work even better is: One pound of grain for every 1½ pounds of milk over 10 pounds for Guernsey and Jersey; 1 pound of grain for every 2 pounds of milk over 15 pounds, for Ayrshire, Brown Swiss, and Holstein. (This assumes unlimited feeding of good roughage.)

These rules leave out of account the cost of feed and the price you get for milk. *Should you change your feeding program as prices change? How does the group's thinking check with these suggestions?*

With most cows, the more grain you feed, the more milk you get. But it doesn't pay to increase feed beyond a certain point. That point depends in part on the price of grain, and partly on the price of milk, and on how much each cow is producing.

This makes a difference, of course: if you're feeding "light," 100 pounds more grain will yield, on the average, 150 pounds more milk. If you're feeding "heavy," 100 pounds more grain will give only 60 pounds more milk.

3. Here is a table that tells how much grain it will pay you to feed under certain conditions. These schedules were worked out on the basis of carefully controlled experiments at four State Experiment Stations. The cows were mostly Holstein and Jersey, with some Brown Swiss.

The table tells you the most profitable *average* rate of feeding. You may not want to feed that heavily early in the lactation period when the cow is flush or, if your cows are on pasture, during the first month or two of lush pastures; and you probably will want to feed at a heavier rate in the late season to keep production from slumping too much. But the table should apply during most of the year. It assumes that the protein requirements are being met.

How to use the table: Start with the number of pounds of milk you get daily from one of your cows, and the percentage

of butterfat. Locate the right number in Section A. Now, how does the price you pay for grain compare with the price you get for milk (or butterfat, if that's what you sell) per 100 pounds? Find the right column in Section B, then follow across from the number you just found in Section A to this column in Section B. There's how much grain it will pay you to feed that cow under the stated conditions.

Note that this table does not tell how much you can increase production by increased feeding. It simply shows the most *profitable* feeding rate in terms of grain to milk.

How should the table be adjusted for cows allowed all the roughage they will eat, remembering that fed more grain, they eat less roughage? Is your roughage better or poorer than average? Do you have to allow for differences between experiment station cows and your cows?

Do you think that any of these rules can be applied to all cows? Or must the response of each cow be taken into account?

Do these points get into the discussion? The rules themselves have to be applied in terms of individual cows, of course, not in terms of the herd. That means weighing the individual milkings of each cow every day or at least every few days. If you don't know how much each is producing, you are likely to overfeed the lower producers and underfeed the higher producers. It pays to adjust the quantity of grain for each cow at least monthly, according to her change in production.

But apart from this, you should use the rules only as rough guides. Increase the ration gradually, say a pound every second day, to be sure that individual cows can handle the suggested quantities without going off feed or developing udder troubles.

Suggested grain-feeding schedules for different price relations

(Based on a daily roughage portion of 20 pounds of ordinary hay per 1,000-pound cow.)

Section A Daily production of milk, testing—				Section B How much grain to feed for greatest profit when grain price is—				
3½ per- cent fat	4 per- cent fat	4½ per- cent fat	5 per- cent fat	1½ times milk price or .07 times fat price	1¼ times milk price or .06 times fat price	Same price as milk or .05 times fat price	¾ of milk price or .04 times fat price	½ of milk price or .03 times fat price
Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
11	10	9	8	2	2	2	3	4
17	15	14	12	4	4	5	6	7
22	20	18	16	6	6	7	8	10
28	25	23	21	8	8	9	11	13
33	30	27	25	10	11	12	13	16
39	35	32	29	12	13	14	16	19
45	40	36	33	14	15	16	19	22
50	45	41	37	16	17	19	21	25
56	50	45	41	18	19	21	24	
61	55	50	45	20	21	23	Commercial dairymen seldom feed more than 25 pounds.	
67	60	54	49	21	23			

How about feeding more roughage?

Does it pay to raise and save lots of good roughage? You recognize good hay when you see it. Is plenty of good hay available in your community this year? Does it pay to feed cows all the roughage they will take? How about putting up some grass silage instead of hay? What would be the advantages? What the disadvantages?

How do the group's ideas check with these recommendations? Store plenty of good hay, especially legume hay. Don't depend on cornstalks and poor hay. When pastures are poor, give your cows all the roughage they will eat. If your herd is large and if wet weather threatens during the haying season, put up some of the hay as grass silage. In general, it pays. Hay can be replaced in the daily ration by silage at the rate of 3 pounds of silage for each pound of hay.

If neither silage nor other roughage is available, you ought to think about buying enough good hay for at least one feeding a day rather than turn to heavier grain feeding. You can tell good hay by its sweet smell, fine stem, leafiness, and green color. Hay like that is worth 60 percent as much as grain per ton (10 pounds of good hay equals 6 pounds of grain). It is a good idea to have at least one-third clover, alfalfa, or other legume hay for dairy feeding. Fair hay is worth only half as much as the same weight of grain for moderate feeding (10 pounds of fair hay equals 5 pounds of grain). Cows generally will eat more roughage of poor quality when it is sprinkled with molasses.

Are you sure your cows are getting enough protein? As a rough guide, include either 3 pounds of legume hay or 1 pound of high protein concentrate in the ration for every 6 pounds of milk produced. Still better, consult a feeding standard.

How about late-season pastures?

Is it practicable on your farm to supply a succession of pasture crops to furnish ample feed throughout the growing season? How about late-season crops to take the place of permanent pastures after the flush season is past? Which crops are best for the purpose in these parts? How about better management of pasture lands? Rotation in grazing? Clipping? Fertilization?

Good pasture is recognized as the cheapest feed for dairy production. That means a luxuriant succulent growth of immature grasses for quick fill. *Can you plan your late-season pastures so that the cows will have clean water and shade, the same as in permanent pastures?*

Are you acquainted with your State Extension pasture program? Consult your county agent.

How about general management?

What else makes a difference in milk production, besides grain feeding, roughage, and pasturage? Here are some considerations:

1. **See that the cows have plenty of water.** In warm weather they drink often and much, if they have a chance. In winter, if you don't have automatic drinking cups, cows should be watered at least twice a day, preferably with water from which the chill has been taken and right after they have eaten dry roughage.

2. **Feed common salt in the grain mixtures** and by means of salt blocks in the pasture.

3. **Have the cows fit at calving time.** If cows are in good condition when they freshen, they should give more milk all through the next milking period.

4. **Dry up cows 8 weeks before calving.** If you milk a cow right up to a week or two before she calves, you cut down production by as much as 15 percent during the next milking period.

5. **Have the cows calve every 12 months.** Year in and year out, your cows will produce more milk that way than if they calve less often.

6. **Handle the cows gently.** Don't hurry them in or out of the barn, or to and from pasture.

7. **Keep the cows comfortable.** Protect them from storms, give them plenty of bedding, and keep them dry. And it is just as important to keep a barn cool in summer as warm in winter. Give your cows enough chance for exercise.

8. **Feeding and milking three times a day** will increase production considerably. The practice is recommended during slack seasons when labor is not fully employed.

9. **Take pains to produce milk of high quality.** That means clean barn, clean handling, clean equipment. Cool the milk at once and keep it cool until delivered. Keep your cows from offending feeds (wild onion, bitterweed, and at times silages and green-cut feeds) for 5 hours before milking to avoid off flavors.

Milk that is unmarketable does not add to the food supply of the Nation. In quantity and quality, produce to the utmost for victory.



Call to arms for dairy farms